PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD650 AND ADELPHIRD./DILSTON RD. IN MONTGOMERY COUNTY. THE WORK WILL INCLUDE APS AND CPS AND IS NECESSITATED BY GEOMETRIC IMPROVEMENTS TO THE INTERSECTION. MD 650 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA FIVE-PHASE, SEMI-TRAFFIC-ACTUATED MODE WITH AN

EXCLUSIVE LEFT TURN PHASE FOR S.B. MD 650, CONCURRENT SIDE STREET PHASING AND AN ADELPHIRD. RIGHT TURN OVERLAP PHASE. ALTERNATE PEDESTRIAN PHASES WILL BE PROVIDED ACROSS THE EAST, WEST, AND SOUTH LEGS OF THE INTERSECTION.

CONTROLLER REQUIREMENTS

THE EXISTING EIGHT-PHASE, FULLY-ACTUATED CONTROLLER HOUSED IN A NEMA "6" BASE MOUNTED CABINET WILL BE USED.

SPECIAL NOTES

APS WILL FUNCTION AS FOLLOWS:

FOR NEW HAMPSHIRE AVENUE

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS NEW HAMPSHIRE AVENUE."

B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

FOR ADELPHIROAD

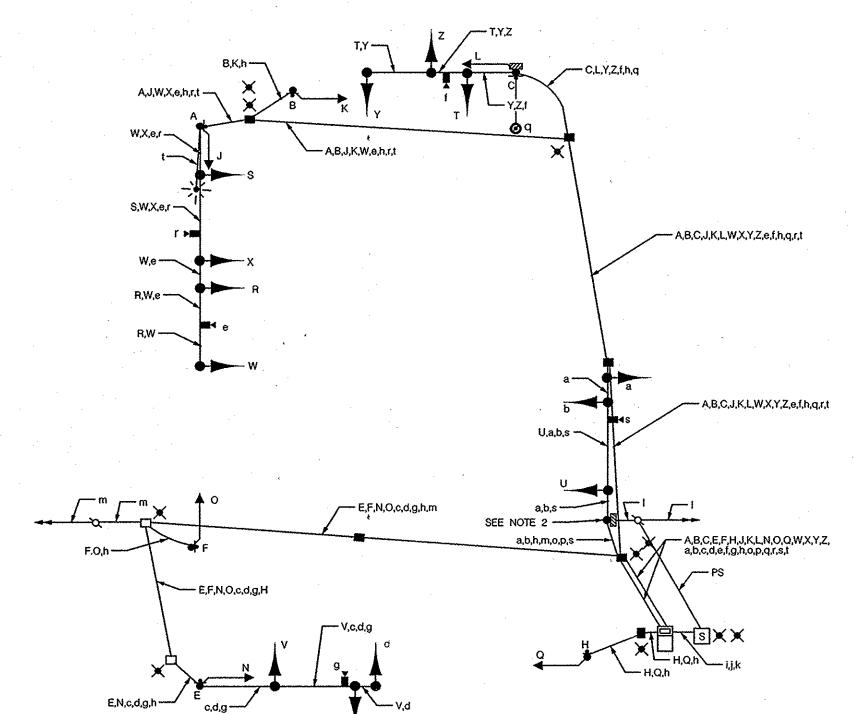
A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS ADELPHI ROAD."

B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE. FOR DILSTON ROAD

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS DILSTON ROAD."

B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

WIRING DIAGRAM



1. ALL UNUSED CABLE SHALL BE REMOVED

2. THE EXISTING INTERCONNECT CABLES (I AND m) SHALL BE SPLICED TO THE PROPOSED INTERCONNECT CABLES (o AND p) IN THE 'G' TYPE POLE MOUNTED CABINET.

WIRING KEY

2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) VIDEO DETECTION CABLE

STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.) 1-CONDUCTOR ELECTRICAL CABLE EXISTING INTERCONNECT CABLE EXISTING CAMERA CABLE 12-PAIR VOICE GRADE INTERCONNECT

MONTGOMERY COUNTY CAMERA CABLE VIDEO DETECTION CABLE 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TRAY CABLE PROPOSED ELECTRIC SERVICE GROUND ROD

(NOTE: LETTERS "I,D,G,M, AND P" ARE NOT USED)

EQUIPMENT LIST "A"

A EQUIPMENT TO BE FURNISHED BY THE SHA AND INSTALLED BY THE CONTRACTOR

| CATEGORY CODE NO. | QUANTITY | DESCRIPTION |
|----------------------|--|--|
| 973023 | 147 SF | SHEET ALUMINUM SIGNS TO CONSIST OF THE FOLLOWING: |
| • | | 2 EA - D3-2 DUAL FACE SIGN (VAR. X 16") - MAST ARM MOUNT |
| | | 1 EA - R10-11B SIGN (24" X 30") - MAST ARM MOUNT |
| | | 4 EA - R3-5(L) SIGN (30" X 36") - MAST ARM MOUNT |
| | | 2 EA - R3-5(R) SIGN (30" X 36") - MAST ARM MOUNT |
| • | | 2 EA - R3-3(2) SIGN (24" X 24 ") - MAST ARM MOUNT |
| | | 2 EA - M95-1/D3-3(2) SIGN (72" X 40") - MAST ARM MOUNT |
| • | e de la companya de l | 2 EA - S1-1 SIGN (36" X 36") AND M6-2 SIGN (21"X 15")-POLE MOUNT |
| | 1 EA | "G" TYPE POLE MOUNTED CABINET |
| | | |

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR. ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO THE OFFICE OF TRAFFIC AND SAFETY FOR APPROVAL PRIOR TO INSTALLATION.

| | CATEGORY | | |
|---|----------|----------|---|
| | CODE NO. | QUANTITY | DESCRIPTION |
| | 203030 | 8 CY | TEST PIT EXCAVATION |
| | 585620 | 1100 LF | FURNISH AND INSTALL 12 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING |
| | 585624 | 160 LF | FURNISH AND INSTALL 24 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING |
| | 816005 | 2 EA | FURNISH AND INSTALL 250 FT. VIDEO DETECTION CABLE |
| | 816010 | 3 EA | FURNISH AND INSTALL 500 FT. VIDEO DETECTION CABLE |
| | 800000 | 6 EA | FURNISH AND INSTALL 16 IN. COUNTDOWN PEDESTRIAN SIGNAL HEAD |
| | 800000 | 41 EA | FURNISH AND INSTALL 12 IN. L.E.D. VEHICULAR SIGNAL HEAD SECTION |
| | 866103 | 2 EA | FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM |
| | 800000 | 1 EA | FURNISH AND INSTALL 250 WATT HPSV LUMINAIRE |
| | 800000 | 3 EA | FURNISH AND INSTALL BREAKAWAY PEDESTAL POLE |
| | 800000 | 6 EA | FURNISH AND INSTALL AUDIBLE-TACTILE PEDESTRIAN PUSHBUTTON AND SIGN |
| | 818036 | 1 EA | FURNISH AND INSTALL 27 FT. MAST ARM POLE WITH A 50 FT. MAST ARM |
| | 818052 | 1 EA | FURNISH AND INSTALL 27 FT. MAST ARM POLE WITH A 70 FT. MAST ARM |
| | 800000 | LS | REMOVE AND DISPOSE OF EXISTING EQUIPMENT |
| | 816001 | 5 EA | FURNISH AND INSTALL VIDEO DETECTION CAMERA |
| | 816015 | 1 EA | FURNISH AND INSTALL VIDEO INTERFACE EQUIPMENT |
| | 801004 | 18 CY | FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION |
| | 802501 | 700 LF | FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER WIRE |
| | 805135 | 150 LF | FURNISH AND INSTALL 3 IN SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED |
| | 805155 | 330 LF | FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - SLOTTED |
| | 810010 | 200 LF | FURNISH AND INSTALL ELECTRICAL CABLE 1-CONDUCTOR (NO. 4 A.W.G.) |
| | 811001 | 4 EA | FURNISH AND INSTALL ELECTRICAL HANDHOLE |
| | 800000 | 10 EA | FURNISH AND INSTALL GROUND ROD 3/4 IN. DIAMETER X 10 FT. LENGTH |
| | 861105 | 1300 LF | FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (NO. 14 A.W.G.) |
| | 861107 | 1450 LF | FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR (NO. 14 A.W.G.) |
| | 861108 | 2000 LF | FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR (NO. 14 A.W.G.) |
| | 861116 | 300 LF | FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (NO. 12 A.W.G.) - TRAY CABLE |
| | 813015 | 147 SF | INSTALL OVERHEAD SIGN |
| | 805140 | 80 LF | FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED |
| | 800000 | 1 EA | FURNISH AND INSTALL HANDHOLE FRAME AND COVER |
| | 800000 | 100 LF | FURNISH AND INSTALL 12-PAIR VOICE GRADE INTERCONNECT CABLE |
| | 800000 | 300 LF | REMOVE AND REROUTE EXISTING CABLE |
| | 800000 | 2 EA | FURNISH AND INSTALL CONDUIT BEND IN EXISTING FOUNDATION |
| | 800000 | 1 EA | RELOCATE EXISTING POLE MOUNTED CABINET |
| | 800000 | 1 EA | INSTALL "G" TYPE POLE MOUNTED CABINET |
| | 800000 | 3 EA | FURNISH AND INSTALL 3 IN. CONDUIT RISER |
| | 800000 | 1 EA | FURNISH AND INSTALL METERED SERVICE PEDESTAL |
| a | 800000 | 220 LF | FURNISH AND INSTALL MONTGOMERY COUNTY CAMERA CABLE |
| | 800000 | 1 EA | FURNISH AND INSTALL 2 WIRE CENTRAL CONTROL UNIT |
| | 800000 | 2 EA | FURNISH AND INSTALL 16.5 FT. MAST ARM POLE WITH A 50 FT. MAST ARM |
| • | | | |

EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

QUANTITY DESCRIPTION ITEM NO.

ALL SIGNAL EQUIPMENT TO BE REMOVED AND NOT RETURNED TO THE SHA SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

CONTACT PERSONS FOR DISTRICT 3 ARE AS FOLLOWS:

MR. JEFF WENTZ ASSISTANT DISTRICT ENGINEER - TRAFFIC MR. WAYNE MOWDY

ASSISTANT DISTRICT ENGINEER - MAINTENANCE

(301) 513-7304

MR. AUGIE REBISH ASSISTANT DISTRICT ENGINEER - UTILITIES

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

MR. RICHARD DAFF, SR. CHIEF, TRAFFIC OPERATIONS (410) 787-7630

(301) 513-7318

MR. EUGENE BAILEY TEAM LEADER SIGN OPERATIONS (410) 787-7676

MR. ROBERT SNYDER ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS (410) 787-7631

MS. DARLENE EIDE SUPPLY OFFICE SIGNAL SHOP WAREHOUSE (410) 787-7668

MR. ED RODENHIZER TEAM LEADER SIGNAL OPERATIONS (410) 787-7652

CONTACTS FOR MONTGOMERY COUNTY

MR. KAMAL HAMUD TRAFFIC ENGINEERING (240) 777-8761

PHASING CHART

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | _ |
|-----------------------|-----|-------------------|---------------|---------------|---------------|---------|-----|-------------------|------------|---------|-----|-------------------|---------------------------|------------|-------|-----------|------------|--------------|-------|-----------|
| | (R) | (R) (Y) (G) | | | | (E) (S) | (R) | (R) (S) (S) | (R) (G) | (R) (G) | (R) | (R) (Y) (G) | (R) (Y) (Y) (S) (G) | #88 | 公田 | AB | ABB | 188 % | 部念 | |
| PHASE 2 & 5 | R | R | | d G− | | G | G | R | R | R | R | R | R -G≯ | DW | DW | DW | DW | DW | DW | |
| 2 & 5 CHANGE | R | R | 4 -Y- | 4 Y − | ∢ Y — | G | G | R | R | R | R | R | R -Y≯ | DW | DW | DW | DW | DW | DW | 1. |
| PHASE 2 & 6 | G | G | 4 R- | 4 ·R− | ∢ -R | G | G | R | R | R | R | R | R | WK | WK | WK | WK | DW | DW | oo |
| PED CLEAR | G | G | ◆ R- | 4 -R — | 4 -R− | G | G | R | R | R | R | R | R | FL-DW | FL-DW | FL-DW | FL-DW | DW | DW | |
| 2 & 6 CHANGE | Y | Υ | ◆ R- | ∢ R- | ◆ R- | Υ | Υ | R | R | R | R | R | . R | DW | - DW | DW | DW | DW | DW | ٥٥ |
| PHASE 4 & 8 | R | R | € R- | 4 -R− | ◆ R- | R- | R | G | G | G | G | G | G | DW | DW | DW | DW | DW | DW | 1 |
| 4 & 8 CHANGE | R | R | 4 -R− | 4 -R- | ◆ R- | R | R | Υ | Υ | Y | Υ | Υ | Υ | DW | DW | DW | DW | DW | DW | - |
| PHASE 4 ALT & 8 | R | R | 4 -R− | ◆ R— | 4 -R− | R | R | G | G | G | G | G | G | DW | DW | DW . | DW | WK | WK | ρ 1 |
| PED CLEAR | R | R | ∢ -R | ◆ R | ∢ R- | R | R | G | G | G | G | G | G | DW | DW | DW | DW | FL-DW | FL-DW | |
| 4 ALT & 8 CHANGE | R | R | 4 -R | 4 -R | ∢ R— | R | R | Υ | Υ | Y | Υ | Υ | Υ | DW | DW | ÐW | DW | DW | DW | ٥ |
| FLASHING OPERATION | FLY | FLY | ∢ FLR- | ∢ FLR- | ∢ FLR- | FĽY | FLY | FLR | FLR | FLR | FLR | FLR | FLR | DARK | DARK | DARK | DARK | DARK | DARK | 11 |

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF TRAFFIC & SAFETY

TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION PLAN MD 650 AND ADELPHIROAD / DILSTON ROAD

TRAFFIC CONCEPTS INC. 325 Gambrills Road Gambrills, MD 21054 FAX (410) 923-6473 EMAIL TRAFFIC.CONCEPTS@COMCAST.NET

Suite E

(410) 923-7101

CONTRACT NO. M-771X-375 DATE 9-27-07 NONE MONTGOMERY T. ZAYDEL 15065000.33 LOGMILE DRAWING NO. TS-19D GI-1 SHEET NO.